Chandler • Arizona
Where Values Make The Difference

Civil Engineering
Water Plan Review Checklist

Log No.: _____

C.I.P. No.: _____

Project:	
Location:	

Legend	
/	Requirement satisfied.
O	Requirement not satisfied.
?	Unable to determine status, more information is required.
X	Not applicable.

Review #	Reviewed By	Date
1		
2		
3		
4		
5		

The requirements referred to on the checklist can be found within Chapter 48 (Subdivisions) of the City Code and in the City's Technical Design Manuals.

Item	Requirement	Comments
1.	The improvement plans must be submitted on 24" x 36" sheets. Please resubmit plans on correct size sheets.	
2.	Show the name of the proposed development on the cover sheet.	
3.	Show the developer's name, address and phone number on the cover sheet	
4.	Show the engineer's name, address, and phone number on the cover sheet.	
5.	Place a vicinity or site location map on the cover sheet.	

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Chandler, Arizona 85244-4008

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Development Services Division
Civil Engineering Plan Review Section
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Form No. UDM-31/Folder 490
Rev. 4-19-06

Item	Requirement	Comments
6.	Place an index map with the following information on the cover sheet: A. Existing water system including fire hydrants and valves. B. Proposed water system including fire hydrants and valves. C. Pipe sizes. D. Sheet numbers. E. City limit lines where applicable. F. Existing water system with fire hydrants on perimeter is required. G. Phase limits and numbers if applicable.	
7.	Add the following approval block to the cover sheet: A. For Capital Improvement Projects: **APPROVED:** _____ **DIRECTOR OF PUBLIC WORKS DATE** _____ **CITY ENGINEER DATE** B. For all other projects: **APPROVED FOR COMPLIANCE WITH CITY CODE:** _____ **CITY ENGINEER DATE** _____ **DEVELOPMENT SERVICES ENGINEER DATE**	
8.	Add the following approval block to the cover sheet: **DOMESTIC WATER APPROVED:** _____ **MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPT. DATE**	
9.	Acquire Maricopa County Environmental Services Department approval and signature.	

Item	Requirement	Comments
10.	Show or correct the following City standard notes on the cover or detail sheet: A. General Notes. B. Water Notes.	
11.	Please coordinate the plans with the appropriate utility companies on the list below. Place a "utility coordination block" on the cover sheet. Show the names of the utility companies and the date plans were submitted to them. Air Products and Chemicals, Inc. Arizona Public Service AT&T Telephone Long Distance COX Communications El Paso Natural Gas Qwest Roosevelt Water Conservation District (RWCD) Salt River Project (power) Salt River Project (SRVWUA) Kinder Morgan Energy Partners Southwest Gas Sprint Telephone Long Distance	
12.	All elevations shown on the plans must be referenced to an approved City benchmark. The City's benchmark ID number (CMCN #) and verbatim description must match the latest edition of *City of Chandler Vertical Control Base List*, and must be shown on the cover sheet.	
13.	The development is adjacent to a current City project/Improvement District. Coordinate your plans with the City Project/Improvement District Engineer. Add the following approval block to the cover sheet and acquire the engineer's signature. _____ **APPROVED FOR COORDINATION DATE** (Add project name and number)	
14.	A portion of the improvements shown on your plans is within the jurisdiction of the state/county. Acquire the appropriate permit. Indicate the permit number on the cover sheet.	

Item	Requirement	Comments
15.	A service tap detail is required on the cover sheet showing the following items: A. Standard tap location. B. Minimum 6' separation between water and sewer taps. C. Standard detail number. D. Backflow prevention device location with standard detail number; see item 20 for applicability.	
16.	Install PVC water lines per City of Chandler Standard Detail No. C-308 and Standard Specification. No. 10. Specify this in the construction notes on the plans.	
17.	Add the following on the lower right of the cover sheet over the title block: **C.O.C. Log No. _____**	
18.	Add the following note to the plan cover sheet: **The following installation procedure shall be followed on all water line extensions of lines over eleven (11) months in age:** **A new valve of like size shall be installed in the new line extension at the point of extension. A 3/4" saddle and riser shall be installed in the line between the new valve and the first existing valve in the existing system. This line will be flushed and tested by the City and the 3/4" nut and riser removed.** **After the new water system is accepted by the City and the new valve and existing valve are turned on, the operating nut shall be removed from one or the other of the valves and abandoned.**	
19.	The minimum height of all text and symbols must be 0.1" (one tenth of one inch).	
20.	Backflow prevention devices are required on the potable water services to: A. Chemical manufacturing plants. B. Hospitals. C. Mortuaries. D. Plating plants.	

Item	Requirement	Comments
	E. Premises with auxiliary water supply or distribution systems.	
	F. Reclaimed water users.	
	G. Sewage treatment plants.	
	H. Irrigation systems.	
	I. Any other sites individually designated by the City's Water Distribution Supervisor.	
21.	The water line sizes must conform to the *City of Chandler Water Master Plan.*	
22.	The engineer preparing the plans must seal, sign and date each sheet of the improvement plans.	
23.	Show north arrows on each sheet.	
24.	Show the scale on each sheet. See *Technical Design Manual 1 - Water System Design,* for requirements.	
25.	Show match lines and sheet references on each sheet and stations if applicable.	
26.	Show phase limits and numbers on all applicable sheets.	
27.	Show all existing water lines being tied into and nearest fire hydrants.	
28.	Provide dimensional ties for all existing water lines being tied into. Providing both a station number and a dimensional tie to the street centerline usually satisfies this requirement.	
29.	Show all proposed water lines. Water lines are required adjacent to all streets.	
30.	Water lines, fire lines, and water service lines are not allowed to pass under retention basins. This does not apply to irrigation lines downstream of the backflow preventer.	
31.	Water lines must be dimensioned from the street centerline.	
32.	Install water lines in standard locations. See *Technical Design Manual 1 - Water System Design* for details.	
33.	Show all existing and proposed reclaimed water lines on the plans.	

Item	Requirement	Comments
34.	A 1" water service, with stationing, is required to all single-family lots. Landscape tracts must be approved with services of a size as determined by the landscape architect and must be stationed. Add the following note to the plans: **The developer shall provide water meter adapters for water meters other than 1" in size.**	
35.	Show water stub-outs for all adjacent undeveloped property, unless otherwise justified. Also, provide water stub-outs for all major parcels within, or adjacent to, the development.	
36.	Install ductile iron pipe (mechanical-joint or restrained-joint) through dip sections, including transitions to normal depth. Show all dip sections in profile view; include the following items: A. Minimum vertical clearance of 2' from obstructions. B. Concrete encasement per MAG Standard Detail 404 if applicable. C. Thrust blocks or joint restraint with standard detail call-out. Megalugs or equal are not allowed.	
37.	Show all crossings of existing or proposed utility lines in both plan and profile views. A. Water and sewer. B. Reclaimed water (4" or larger). C. C.I.P. projects also must include telephone, electric, gas, cable, and other buried utility lines where appropriate. The profile view requirement can be satisfied if the crossings are shown on separate sewer profile sheets.	
38.	All water lines, including fire hydrant connections, which cross arterial streets must be installed as ductile iron pipe for all portions under pavement.	
39.	Where a water line crosses under a sanitary sewer, including house service connections, or under a reclaimed water line, the water line must be ductile iron pipe regardless whether the sewer is ductile iron pipe or concrete encasement is used.	

Item	Requirement	Comments
40.	Where a water line crosses a sanitary sewer or reclaimed water line, extra protection per MAG Standard Detail 404 is required. Water lines encased in concrete must be ductile iron pipe.	
41.	Cul-de-sac dead-end lines must have a fire hydrant installed at the end of line. Locate the fire hydrant 6' from back of curb and the valve in the pavement one foot from the lip of gutter.	
42.	Whenever possible, extend dead-end lines beyond paved surfaces to avoid pavement cutting at time of future connection, and equip with a flushing pipe assembly per C.O.C. Standard Detail 300.	
43.	Install a gate valve on every dead end line between the last fitting and the flushing pipe assembly at the terminus of the line. The minimum distance between the gate valve and the flushing pipe assembly must be 20'.	
44.	Valve installations must comply with the following:	
	A. Distribution line (16" diameter and smaller), spacing no greater than 600'.	
	B. Distribution line, three valves on each “tee” and four valves on each “cross”.	
	C. Locate distribution line on a property line where appropriate.	
	D. Transmission main (greater than 16" diameter) spacing no greater than one-half mile.	
	E. Valve box installations must conform to City Standard Details C-307 and C-318; specify these details in the construction notes on the plan.	
	F. Locate valves at intersections at the first lot line clear of the intersection, except as specified below. If no lot line exists or if no driveways front on the waterline side of the street along the leg of the tee (or cross) between the lot line and the intersection, locate the valve near the curb return at a minimum of 6' from the curb return.	
	G. Locate valves at tee intersections laterally along the top of the tee to the first lot line clear of conflicts with sidewalk ramps, driveways, scuppers or other items, except as specified below. If no lot line exists or if no driveways front on the waterline side of the street along the top of the tee between the lot line and the intersection, locate the valve as close as practicable to the tee while avoiding	

Item	Requirement	Comments
	conflicts, a minimum of 6' from the curb return. Locate valves on the leg of the tee per item F above.	
	H. Refer to valve blocking per M.A.G. Standard Detail 301.	
	I. No valve shall be located in a sidewalk, ramp or driveway.	
	J. Valve locations must be stationed.	
45.	Fire hydrant installations must comply with the following requirements:	
	A. 450' maximum spacing in single-family residential areas.	
	B. 300' maximum spacing in other developed areas.	
	C. 1000' maximum spacing in undeveloped areas.	
	D. Install a fire hydrant at subdivision entrances.	
	E. Fire hydrant installations must conform to City Standard Details C-303, C-304, and C-305.	
	F. Fire hydrants must be stationed.	
	G. In cluster developments, locate fire hydrants no further than 250' from each structure, measured along a hose-laying line to the farthest corner of the structure.	
46.	If a model home area is to be a part of the project the following is required: Provide a fire hydrant at or near the site entrance, located within 75' of the access roadway. Locate a hydrant within 300' of each structure measured along a hose-laying line to the farthest corner of the structure. Connect the hydrant to an approved water source. If the water source line is longer than 400', it must be looped to an additional source.	
47.	A street cut application must be submitted to the City and approved by the City Engineer prior to plan approval. The status of your application is:	
	A. Please submit application.	
	B. Application is currently under review.	
	C. Application has been denied.	
	D. Application has been approved.	
48.	Complete and submit (with the mylars for final approval) a Certificate of Quantities, sealed, signed and dated by the civil engineer. Submit a separate Certificate of Quantities for each construction phase.	

Item	Requirement	Comments
49.	An easement or right-of-way dedication is required by separate instrument. Please provide the following exhibits and/or information along with the easement document: A. Subdivision name. B. Type of easement/R.O.W. C. Reason or purpose of the easement/R.O.W. D. Vicinity map showing major cross streets. E. Legal description with RLS certification. F. Detail map showing the easement/R.O.W. alignment with dimensions and bearings, true point of beginning, section, township and range. G. Current title report.	

Please return this checklist with the next plan submittal

For City Use

1. Water Distribution Supervisor review?